To: Adams, Chris[Chris.Adams@owrb.ok.gov]
Cc: Veiga, Rebecca[Rebecca.Veiga@owrb.ok.gov]; Cauthron, Bill[Bill.Cauthron@owrb.ok.gov]; Julie CHambers[Julie.Chambers@owrb.ok.gov]
From: Shaikh, Taimur
Sent: Fri 11/17/2017 6:23:34 PM
Subject: RE: Lake Tenkiller EFDC Modeling Update

Hi Chris.

I was somewhat aware but I wanted to save a more detailed discussion with the Technical Workgroup for the call (where OWRB can share the methodology) and we can discuss representativeness.

Thanks so much and have a great weekend.

Taim.

Taimur A. Shaikh, Ph.D.
Acting Section Chief | NPDES Management Section (6WQ-PO)
Home Section | Assessment, Listing, and TMDL Section (6WQ-PT)
Water Division | EPA Region 6

From: Adams, Chris [mailto:Chris.Adams@owrb.ok.gov]
Sent: Friday, November 17, 2017 12:05 PM
To: Shaikh, Taimur <Shaikh.Taimur@epa.gov>
Cc: Veiga, Rebecca <Rebecca.Veiga@owrb.ok.gov>; Cauthron, Bill <Bill.Cauthron@owrb.ok.gov>; Julie CHambers <Julie.Chambers@owrb.ok.gov>
Subject: RE: Lake Tenkiller EFDC Modeling Update

HI Taim,

You probably know this but, as a heads up before the call, Oklahoma assesses Tenkiller as two segments. I have not yet checked how that affects the comparison with overall anoxic volume but assuming it pushes the deeper section towards impairment. We are in the process of updating our GIS layers but once they are done we can check how they compare.

Thanks,
Chris

Chris Adams, PhD
Quality Assurance & Data Manager
Water Quality Division
OKLAHOMA WATER RESOURCES BOARD
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From: Shaikh, Taimur [mailto:Shaikh.Taimur@epa.gov]
Sent: Thursday, November 16, 2017 11:36 PM
To: Brian Haggard
Cc: Wooster, Richard; Dwyer, Stacey; Adams, Chris; Akakpo, David; Cauthron, Bill; blanz@adeq.state.ar.us; Miller, Caitlin; Greg Kloxin; Joe Long; Chambers, Julie; Soojung Lim; Pat Gwin; Veiga, Rebecca; John Benefield; tom-elkins@cherokee.org; Tate Wentz; Wooster, Richard; Jeremy Seiger
Subject: [Caution: Message contains Redirect URL content] RE: Lake Tenkiller EFDC Modeling Update

Hi Brian,

Thanks for your comments. I think these will be helpful in shaping our discussion. Please see the inserted responses below and we'll keep you in the loop.

Thanks so much.

Taim.

Taimur A. Shaikh, Ph.D.
Acting Section Chief | NPDES Management Section (6WQ-PO)
Home Section | Assessment, Listing, and TMDL Section (6WQ-PT)
Water Division | EPA Region 6

From: Brian Haggard [mailto:haggard@uark.edu]
Sent: Tuesday, November 14, 2017 5:35 PM
To: Shaikh, Taimur <Shaikh.Taimur@epa.gov>; Chris Adams <Chris.Adams@owrb.ok.gov>; Akakpo, David <david.akakpo@deq.ok.gov>; Bill Cauthron <Bill.Cauthron@owrb.ok.gov>; blanz@adeq.state.ar.us; Caitlin.Miller@owrb.ok.gov; Greg Kloxin <Greg.Kloxin@Conservation.ok.gov>; Joe Long <Joe.Long@deq.ok.gov>; Julie CHambers <Julie.Chambers@owrb.ok.gov>; Soojung Lim <soojung.lim@deq.ok.gov>; Pat Gwin <pgwin@cherokee.org>; Rebecca Veiga Nascimento <Rebecca.Veiga@owrb.ok.gov>; John Benefield <Ryan.Benefield@arkansas.gov>; tom-elkins@cherokee.org; Tate Wentz <WENTZ@adeq.state.ar.us>; Wooster, Richard <Wooster.Richard@epa.gov>; Jeremy Seiger <Jeremy.Seiger@ag.ok.gov>
Cc: Wooster, Richard <Wooster.Richard@epa.gov>; Dwyer, Stacey <Dwyer.Stacey@epa.gov>
Subject: RE: Lake Tenkiller EFDC Modeling Update

Taim, thanks.

Is what you have plotted the anoxic volume from that site up-reservoir? [Just curious for clarity.]

For LK-01 (nearest the dam) and LK-02, the site specific anoxic volume is calculated based on the whole water column model cell where the station is located.

How do the model predictions compare to the actual measurements of anoxic volume (based on monitoring data)? [it would be nice to have those on the plots to see how the model is performing.]

Please see the attached file.

Also, just thinking out loud – how does anoxic volume get assessed in Oklahoma's WQS? The use of the model and evaluation with observed data need to be consistent to that.

This question will get expounded upon on the call and we can let you know how our methods compare to what OWRB is doing.

Sorry, (but) I threw these questions out to the group because it looks like my availability is limited on the days in the doodle poll – sorry, end of the semesters are challenging when you add in teaching.

Brian E. Haggard, PhD

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University of Arkansas System, Division of Agriculture

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From: Shaikh, Taimur [mailto:Shaikh.Taimur@epa.gov]
Sent: Tuesday, November 14, 2017 9:16 AM
To: Chris Adams <Chris.Adams@owrb.ok.gov>; Akakpo, David <david.akakpo@deq.ok.gov>; Bill Cauthron <Bill.Cauthron@owrb.ok.gov>; blanz@adeq.state.ar.us; Brian Haggard <haggard@uark.edu>; Caitlin.Miller@owrb.ok.gov; Greg Kloxin <Greg.Kloxin@Conservation.ok.gov>; Joe Long <Joe.Long@deq.ok.gov>; Julie CHambers <Julie.Chambers@owrb.ok.gov>; Soojung Lim <soojung.lim@deq.ok.gov>; Pat Gwin <pgwin@cherokee.org>; Rebecca Veiga Nascimento <Rebecca.Veiga@owrb.ok.gov>; John Benefield <Ryan.Benefield@arkansas.gov>; tom-elkins@cherokee.org; Tate Wentz <WENTZ@adeq.state.ar.us>; Wooster, Richard <Wooster.Richard@epa.gov>; Jeremy Seiger <Jeremy.Seiger@ag.ok.gov>
Cc: Wooster, Richard <Wooster.Richard@epa.gov>; Dwyer, Stacey <Dwyer.Stacey@epa.gov>
Subject: RE: Lake Tenkiller EFDC Modeling Update

Dear folks,

A request was made for anoxic volumes for the lake. The outputs are attached for LK01, LK02, and Lake Tenkiller total.

Also, please share your availability using the doodle poll link for a one hour call to discuss the Lake Tenkiller information.

https://doodle.com/poll/vwsik3gsk34euqts

Thanks so much.

Taim.

Taimur A. Shaikh, Ph.D.
Acting Section Chief | NPDES Management Section (6WQ-PO)
Home Section | Assessment, Listing, and TMDL Section (6WQ-PT)
Water Division | EPA Region 6

From: Shaikh, Taimur
Sent: Friday, November 03, 2017 11:41 AM
To: Chris Adams <Chris.Adams@owrb.ok.gov>; Akakpo, David <david.akakpo@deq.ok.gov>; Bill Cauthron <Bill.Cauthron@owrb.ok.gov>; blanz@adeq.state.ar.us; Brian Haggard <haggard@uark.edu>; Caitlin.Miller@owrb.ok.gov; Greg Kloxin <Greg.Kloxin@Conservation.ok.gov>; Joe Long <Joe.Long@deq.ok.gov>; Julie CHambers <Julie.Chambers@owrb.ok.gov>; Soojung Lim <soojung.lim@deq.ok.gov>; Pat Gwin <pgwin@cherokee.org>; Rebecca Veiga Nascimento <Rebecca.Veiga@owrb.ok.gov>; John Benefield <Ryan.Benefield@arkansas.gov>; tom-elkins@cherokee.org; Wentz, Tate <WENTZ@adeq.state.ar.us>; Wooster, Richard <Wooster.Richard@epa.gov>; Jeremy Seiger <Jeremy.Seiger@ag.ok.gov>
Cc: Wooster, Richard <Wooster.Richard@epa.gov>; Dwyer, Stacey <Dwyer.Stacey@epa.gov>
Subject: Lake Tenkiller EFDC Modeling Update

Dear Technical Workgroup Members,

It's been a considerable amount of time since our last group communication. We have been actively pursuing improvements regarding the Lake Tenkiller EFDC model. After significant revisions to the lake model, the attached document represents what we can achieve with the EFDC model and calibration data for the 2005 -

2006 period. Specifically, we are sharing the profiles for temperature and dissolved oxygen at lake monitoring stations. We would appreciate your review of the attached modeled profiles and the overall statistics. Once we have had a chance to familiarize ourselves with the output, we would like to have a conference call to discuss the current model and decide on a path forward regarding Lake Tenkiller. Any decisions reached at that time will most likely impact options regarding the path forward for the watershed model as well. We hope to have a conference call in the next two to three weeks.

Thank you all for your time and patience and please stay tuned.

Sincerely,

Taim.

Taimur A. Shaikh, Ph.D.

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